

~~NOT FOR PUBLIC DISTRIBUTION~~

1943

LATIN AMERICAN PUBLIC UTILITIES SURVEY
COMMUNICATIONS SECTION

THE COMMUNICATION FACILITIES OF COLOMBIA

PREPARED BY

U. S. DEPARTMENT OF COMMERCE

BUREAU OF FOREIGN AND DOMESTIC COMMERCE

FOR THE

INDUSTRIAL ENGINEERING DIVISION

BOARD OF ECONOMIC WARFARE

JANUARY 1943



THE COMMUNICATION FACILITIES OF COLOMBIA

BY

Robert C. Smith



66/12/149
HE 3018
10733

TABLE OF CONTENTS

Page

I INTRODUCTION

The Republic of Colombia	1
Communications: General	1

II INTERNAL COMMUNICATIONS

Telephone	2
Privately owned circuits	2
National circuits	3
Equipment	8
Long distance telephone lines in Bolivar	12
Bogota-Buenaventura toll line	12
Rates	12
Private telephone service	13
Telegraph	16
Telegraph circuits	16
Morse circuits	18
Teleprinter circuits	20
Creed circuits	20
Statistics of traffic	21
Radio Communications	21
Statistics of traffic	22
Rates	23
Private radiotelephone service	25
Press service	27
Police communications	27
Airways radio	27

III INTERNATIONAL COMMUNICATIONS

International land lines	28
Radio communications	28
Cables	29

IV RADIO BROADCASTING

Regulations	30
Stations	31
Hours of operation	31
Equipment	31
Advertising	31
Number of receiving sets	31

V AMATEUR RADIO	36
-----------------	----

Index of Tables

<u>Table</u>	<u>Page(s)</u>
I. National Telephone Circuits-1941	5-7
II. Number of Subscribers and Length of Lines in Intermunicipal Public Telephone Service, 1941	9
III. Number of Employees and number of Conversations in Intermunicipal Public Telephone Service, 1941	10
IV. Statistics of Equipment used in Intermunicipal Public Telephone Service, 1941	11
V. Telephone Tariff Rates between Bogota and Other cities, 1941	14
VI. Gross Proceeds in Pesos Resulting from Intermunicipal Public Telephone Service, 1941	15
VII. Statistics of Poles and Lines in Use by the Telegraph and Telephone Network of Colombia, April 1942	17
VIII. National Radiotelegraph Stations in Colombia, May 1942	23-25
IX. Broadcasting Stations in Colombia, May 1942	32-36
X. Amateur Radio Stations, 1941	37-38

THE COMMUNICATION
SYSTEMS OF THE
REPUBLIC OF COLOMBIA

I. INTRODUCTION

The Republic of Colombia possesses coastlines on two great oceans, on the Caribbean Sea from the Isthmus of Panama to Venezuela and on the Pacific Ocean to Ecuador. It makes contact with Brazil and Peru by means of tributaries of the Amazon River. The national language of Colombia is Spanish and its capital is at Bogota in the Department of Cundinamarca. The monetary unit is the peso, 1.75 pesos being equal to one United States dollar at the controlled rate of exchange in December 1942.

Geography and Climate.

Three mountain ranges extend from the northwestern frontier to the north and northeast, and occupy about a third of the nation's area. These are named the Sumapaz (eastern) Cordillera, the Quindio (Central) Cordillera, and the Choco (western) Cordillera. The valleys and plains are cool and healthful, the earth is fertile, and there are thousands of square miles of undeveloped land.

Government

The government of Colombia is divided into the executive, legislative, and judicial branches. The executive branch consists of the President and his cabinet and the legislative branch of a bicameral Congress. The President, Congressmen, Governors, and intendancy and commissary officials hold office for four years. The President is ineligible to hold office for two consecutive terms. Suffrage is granted only to men over 21 having lawful occupations.

The Governors of the 14 departments, which correspond to our states, are appointed by the President. Local legislatures are popularly elected.

Population

In 1941 the population of the Republic of Colombia was approximately 9,388,000. Of the total, 20 percent was white, 68 percent mixed, 5 percent negro, and 7 percent Indian. Approximately 30 percent of the entire population lives in the 14 cities of Colombia which contain 50,000 or more inhabitants.

COMMUNICATIONS: General

The early history of communications of Colombia has been marked by frequent revolutions with consequent destruction of wire communication lines. The revolutionists looked upon the telegraph as the most powerful weapon of the Government to suppress them, and consequently lost no opportunity to destroy all the equipment within reach. Although the first message was sent over a line from Bogota to Nare as early as 1865, political strife and the topography of the country delayed for many years the establishment of an efficient communication system. It was not until 1915 that a steady improvement in service was being made. However, recent reports indicate that the system is still inadequate to provide for more than a minimum service even under normal conditions.

The map indicates several interesting generalizations that may be made of the

services rendered. Bogota serves as the hub from which lines of communication radiate outward. Most of the National long distance telephone circuits are found in this area. Barranquilla provides another center for the communications network, but apparently there is no direct interconnection between the two. Bogota is connected to the port of Buenaventura by the long distance line of the Central Telephone Company. Other outlying areas are connected only by telegraph. Radio communication is available at a number of places. A large area in the southeastern section of the country is undeveloped, but there is a radio telegraph station at Leticia near the Peruvian and Brazilian borders.

There are a number of local telephone exchanges in Colombia, but incomplete data prevent a detailed description of these.

The terrain of Colombia has caused the communication lines to run generally in a north and south direction. Most of the lines follow the river valleys between the three mountain ranges.

Communication facilities are owned partly by the government and partly by private interests. Although the Government originally claimed the monopoly of telephone communication, in practice it has left the field free to private enterprise so that at the present time the majority of telephones in service are operated by private companies, including one United States company. The Government has undertaken the development of long-distance telephone service. The telegraph service is State-operated, while wireless stations are operated in part by the Government and in part by private companies. Cable service is provided by the All America Cables and Radio Company, Inc., an United States company.

Industrial expansion and complications of war have greatly increased both internal and external communications, and all radio, telephone, telegraph and cable companies report increased revenues for the first ten months of 1942, despite the fact that communications with Europe have been on a greatly reduced scale. On the other hand, restrictions imposed by war have made materials needed for maintaining adequate services almost impossible to secure, and the services of many plants have been greatly impaired.

II INTERNAL COMMUNICATIONS

TELEPHONE

On January 1, 1941, Colombia had a total of 42,235 telephones in service. Of this total an estimated 9,000 telephones were in service on government systems while the remaining 33,235 were operated by private companies. Thus Colombia in 1941 had 0.46 telephones per 100 population.

Privately Owned Circuits

The Associated Telephone and Telegraph Company owns a considerable amount of telephone property in Colombia. This company was incorporated in Delaware March 1, 1926, as an alliance of American and British financial operating interests in the telephone and allied industries. In November 1926, it acquired the Compania Telefonica de Barranquilla which operates in Barranquilla. Later it acquired the Bogota Telephone Company, Limited, which was sold in February 1941, to the Municipality of Bogota. The Associated Telephone and Telegraph Company also owns the Compania Telefonica del Pacifico, which operates in Cali and lists 2700 subscribers; the Compania Telefonica de Cartagena of Cartagena; and the Compania Telefonica Central which operates a toll line from Bogota to

Buenaventura.

Although the data have not been broken down into terms of individual companies in most cases, it is in sufficient detail to give an indication of the limited telephone services available in Colombia.

NATIONAL CIRCUITS

The government has undertaken the development of a system of national telephone circuits for long distance service.* Table I shows data concerning these national telephone circuits, their intermediary stations, the type and number of wires and the length of the circuit. Some of these circuits provide exclusive telephone service, while others provide for alternating service between telephone and telegraph. These circuits also connect with the Bogota-Buenaventura line operated by the Compania Telefonica Central.

The 76 national stations which provided an exclusive telephone service in Colombia in 1941 are listed by departments.

Department of Antioquia

Abejorral
Betulia
Concordia
La Ceja
La Union
Medellin
Rionegro
Sanson
Urrao

Department of Caldas

Aguadas
Aranzazu
La Dorada
Manizales
Manzanares
Neira
Pacora
Salamina

Department of Cundinamarca

Alban
Bogota
Bosa
Cajica
Caqueza
Chia
Chipaque
Choachi
Choachi (Ternal)
Choconta
Facatativa

Department of Atlantico

Barranquilla
Ponedera
Sabanalarga

Department of Bolivar

Yoti

Department of Boyaca

Tunja

* See map at end of report.

Department of Cundinamarca (Continued)

Fomeque
Fusagasuga
Guaduas
La Aguadita
La Union
La Vega
Nemocon
Nocaima
Pacho
Puente del Comun
San Francisco
San Juan de Riosoco
Siebato
Sopo
Suba
Ubaque
Uno
Usme
Villapinzon
Villota
Zipaquira

Department of Magdalena

Aracataca
Cienaga

Department of Magdalena (Continued)

Concordia
Fundacion
Guaimaro
Medialuna
Orihueca
Paraiso
Pedraza
Pinucla
Pivijay
Riofrio
Santa Marta
Sevilla

Department of Tolima

Ambalema
Armero
Convenio
Fresno
Honda
Libano
Mariquita
Rovira

There are 57 other National Stations which provide alternating telegraph and telephone service. The list by Departments follows:

Department of Bolivar

Calamar
Cartagena
Corozal
Jesus del Rio
Gangangue
Majagual
Mompos
Palmarito
Sinco
Sincolejo
Sucre
Zambrano

Department of North Santander

Ocana

Department of Santander

Barrancabermoja
Bocas del Rosario
Bucaramanga
Betulia
Estacion Vanegas (Cachirasu)
Chucuri
El Centro
Puerto Wilches
San Vicente de Chucuri
Zapatoca

Department of Boyaca
 Hato de Corozal
 La Aguada
 Labranzagrande
 Moreno
 Munchia
 Orocue
 Pore
 Sogamoso
 Tamara
 Trinidad
 Yopal

Intendencia del Meta
 Acacias (Corregimiento)
 Cumaral
 Puerto Alfonso Lopez
 Rostropo
 San Martin
 Villavicencio

Comisaria de Arauca
 Arauca
 Araquita
 Fortoul
 Reinera
 Tame

Department of Cundinamarca
 Agua de Dios (External)
 Agua de Dios (Internal)
 Girardot
 Puéblonuevo
 Tocaima
 Viota

Department of Magdalena
 Banco
 El Reten
 Gamarra
 Guamal
 Remolino
 Sitionuevo

Statistics showing the number of subscribers, the length of lines, and the number of long distance circuits by Departments are presented in Table II. Table III shows data by Departments concerning the number of employees and the number of conversations held in public telephone service during 1940. While details

Table I.

National Telephone Circuits - Colombia, 1941

<u>Circuits</u>	<u>Intermediary Stations</u>	<u>Type of Wires</u>	<u>Number of Wires</u>	<u>Length Miles</u>
Bogota-Facatativa	--	C.	4	99
Facatativa-Alban	--	C-I.	4	50
Alban-Villeta	--	C-I.	3	56
Villeta-Honda	Guaduas	C.	2	87
Honda-Mariquita	--	C.	4	50
Mariquita-Salamina	Fresno-Manzanares	C.	2	149
Salamina-Aguadas	Pacora	C.	4	74
Aguadas-Medellin	Abejorral-La Ceja	C.	2	95
Aguadas-Medellin	Sonson-La Union-Rionegro	C.	2	114
Salamina-Manizales	Aranzazu-Neira	C.	4	154
Honda-La Dorada	--	C.	2	40
Mariquita-Ambalema	Armero	C.	2	74
Armero-Libano	Convenio	C.	1	12

National Telephone Circuits - Colombia, 1941 (continued).

<u>Circuits</u>	<u>Intermediary Stations</u>	<u>Type of Wires</u>	<u>Number of Wires</u>	<u>Length Miles</u>
Alban-Ambalema	San Juan de Rioseco	D.	1	40
Bogota-Fusagasuga	Bosa-Sibato	C.	2	62
Fusagasuga-Pueblo-nuevo	Viota (alternating service-- telegraph and telephone)	I.	1	43
Viota-Tocaima	(alternating service)	I.	1	9
Tocaima-Agua de Dios (Int.)	Agua de Dios-Ext. (alternating service)	I.	1	12
Tocaima-Girardot	--	I.	2	37
Bogota-Choachi	--	I.	1	19
Choachi-Termal	--	C.	2	6
Choachi-Chipaque	La Union, Fomeque, Ubaque, Caqueza Uno	C.	2	74
Chipaque-Bogota	Usme	C-I.	2	45
Villavicencio-Cumara	Restrepo (alternating service)	C-I.	1	16
Villavicencio-San Martin	Acacias (alternating service)	C.	1	65
Villavicencio-Puerto Alfonso Lopez	(alternating service)	C.	1	56
Facatative-San Francisco	La Vega	C.	2	56
Bogota-Sopo	Suba-Puente del Comun	C.	2	50
Puerta del Comun-Chia	--	C.	2	3
Puente del Comun-Zipaquira	Cajica	C.	2	25
Bogota-Tunja	Choconta-Villa Pinzon	C.	4	407
Barranquilla-Cartagena	SabanaLarga (alternating service)	C.	1	99
Barranquilla-Ponedera	--	C.	2	50
Ponedera-Calamar	(alternating service)	C.	1	46
Guaimaro-Santa Marta	Pivijay, Medioluna, Piniela, Paraiso, Fundacion, Aracataca, Sevilla, Rio Frio, Ori Hueca, Cienaga	C.	2	149
Guaimero-Sitionuevo	Remolino (alternating service)	I.	1	19
Aracataca-El Reten	(alternating service)	C.	1	6
Banco-Calamar	Guamal, San Fernando, Mompos, Magangué, Zambrano, Jesus del Rio (alternating service)	C.	1	195
Magangué-Sincoledo	Corozal-Since (alternating service)	I.	1	62
Gamarra-Ocana	(alternating service)	I.	1	40
Magangué-Majagual	Sucre, Palmarito (alternating service)	I.	1	71
Bucaramanga-Puerto Wilches	Estacion Vanegas (alternating service)	C.	1	90
Puerto Wilches-Barranquilla	(alternating service)	C.	1	317
Puerto Wilches-Bocas del Riosario	(alternating service)	C.	1	31
Puerto Wilches-Barranca	(alternating service)	C.	1	22

National Telephone Circuits - Colombia, 1941 (continued).

<u>Circuits</u>	<u>Intermediary Stations</u>	<u>Type of Wires</u>	<u>Number of Wires</u>	<u>Length Miles</u>
Barranca-Chucuri	(alternating service)	C.	1	19
Barranca-Zapatoca	Centro, S. Vicente (alternating service)	C.	1	84
Zapatoca-Bétulia(S)	(alternating service)	C.	1	6
Sogamoso-Tamara	Labranzagrande, El Morro, Yopal, Nunchia (alternating service)	I.	1	149
Tamara-Arauca	Aguada, Moreno, Hato de Corozal, Tame, Fortoul, Arauquita, Reinera (alternating service)	I.	1	202
Tamara-Orocue	Pore, Trinidad (alternating service)	I.	1	130
Magangue-Yati	---	C.	2	19
Bolombolo-Urrao	Concordia, Betulia	C.	2	105
Bogota-Bucaramanga	Service only on holidays (afternoons) utilizing two telegraph lines.	C.	2	407
Zipaquira-Pacho	---	I.	1	19
Zipaquira-Nemocon	---	I.	2	19
La Vega-Nocaima	(alternating service)	I.	1	6
Ibague-Rovira	(alternating service)	C.	1	22
Total Length				4,463

Summary

Number of miles of wires destined exclusively for telephone service....	2,239	miles
Number of miles of wire for alternating service.....	<u>2,224</u>	"
	Total	4,463 "
Telephone Stations in Service.....		133

Note: C - copper wire
I - iron wire

of separate companies are not available, the totals by Departments indicate the comparative extent and usage of the telephone service in various areas.

Equipment

As indicated in Table IV there is some automatic equipment used in Colombia. This is of the step-by-step type and reports indicate that some is of Swedish origin and other of American manufacture. In 1937 a new automatic exchange of Ericsson manufacture was installed at Medellin. No information is available as to the manufacturer of the manual equipment mentioned in Table IV.

Recently telephone companies in Colombia have found it increasingly difficult to secure enough material for maintenance necessities and telephone installations. Shortages exist in nearly all kinds of equipment in the exchanges at Bogota, Cali and Barranquilla.

Some consideration has been made of changing the plant at Bogota to full automatic. Financial problems and world conditions have thus far prevented the carrying out of such plans.

TABLE II

Number of Subscribers and Length of Lines in Inter-Municipal Public Telephone Service - Colombia - 1941.

	: Number :	Length of Miles	:Total :	Circuits-
	: of :	Urban	Inter-urban:	Miles : Long
Departments	:Subscribers:	(Miles)	:	:Distance
Antioquia	7,286	25,916	10,478	36,394 65
Atlantico	3,316	17,856	218	18,074 3
Bolivar	1,584	2,243	1,004	3,247 8
Boyaca	561	116	941	1,057 14
Caldas	4,500	3,198	736	3,934 29
Cauca	248	15		15
Cundinamarca	12,450	53,220		53,220
Magdalena	420	1,221		1,221
Narino	425	108	353	461 12
Santander del Norte	2,154	245	1,457	1,702 76
Santander	2,103	2,320	593	2,913 24
Tolima	740	78		78
Valle	4,014	6,729		6,729
Intendencia del Choco	88	11		11
Telefonica Central	325	203	5,963	6,166 141
Totals	40,014	113,479	21,743	135,222

TABLE III

Number of Employees and Conversations in Intermunicipal Public Telephone Service,
Colombia - 1941.

<u>Department</u>	<u>Number of employees</u>			<u>Approximate number of conversations</u>		
	<u>Permanent</u>	<u>Temporary</u>	<u>Total</u>	<u>Urban</u>	<u>Interurban</u>	<u>Total</u>
Antioquia	84	13	97	42,000,000	1,000,000	43,000,000
Atlantico	74	2	76	20,150,000	15,000	20,165,000
Bolivar	29	8	37	5,000,000	71,000	5,071,000
Boyaca	206	---	206	---	45,000	45,000
Caldas	157	6	163	24,000,000	150,000	24,150,000
Cauca	5	2	7	250,000	---	250,000
Cundinamarca	365	---	365	54,750,000	---	54,750,000
Magdalena	17	---	17	2,000,000	---	2,000,000
Narino	39	---	39	550,000	6,500	566,500
Norte de Santander	115	42	157	6,760,000	386,000	7,146,000
Santander	64	22	86	7,757,000	106,600	7,863,600
Tolima	11	3	14	3,000,000	---	3,000,000
Valle	80	14	94	25,550,000	---	25,550,000
Intendencia del						
Choco	4	4	8	1,500,000	---	1,500,000
Telefonica Central	94	69	163	1,895,000	230,000	2,125,000
Totals	1,344	185	1,529	195,162,000	2,010,100	197,172,100

TABLE IV

Statistics of Equipment Used in Intermunicipal Public Telephone Service - Colombia
1941

<u>Department</u>	<u>Number of central offices</u>	<u>Telephones in service</u>		<u>Total value of plant and equipment (pesos)*</u>
		<u>Number</u>	<u>Type</u>	
Antioquia	32	7,550	Automatic and manual	2,451,000
Atlantico	4	4,220	Manual	1,232,398
Bolivar	1	1,618	Automatic and manual	741,225
Boyaca	5	761	Automatic and manual	430,702
Caldas	30	4,800	Automatic and manual	1,334,514
Cauca	1	248	Manual	40,000
Cundinamarca	3	15,183	Automatic and manual	4,524,569
Magdalena	2	473	Manual	174,020
Narino	2	450	Manual	147,750
Norte de Santander	36	2,154	Automatic and manual	550,000
Santander	21	2,103	Manual	389,961
Tolima	2	750	Automatic	128,923
Valle	9	4,225	Manual	1,004,639
Intendencia del Choco	1	121	Automatic and manual	12,474
Telefonica Central	2	325	Automatic and manual	3,143,677
TOTALS	151	44,981		16,305,852

One peso is equivalent to 0.57 dollars in U. S. currency.

Long Distance Telephone Lines in Bolivar

On March 2, 1940, the Governor of the Department of Bolivar gave his final approval to a contract for the construction of a long distance telephone network approximately 667 kilometers (414 miles) in length.

The main line runs from Cartagena to Monteria, passing through the towns and villages of Turbaco, Arjona, Gambote, Sincerin, Malagana, San Cayetano, San Juan, San Jacinto, El Carmen, Ovejás, Los Palmitos, Corozal, Sincelejo, Sampues, Chinu, Sahagun, Ciénaga de Oro, Berastegui, Cerete and Garzones.

Five branch lines were built: from San Juan to Calamar, passing through El Guamo, Yucal and Barrancanueva; El Carmen and Zambrano; Los Palmitos to Mompos, passing through San Pedro, Juan Arias and Magangué (with a side line from San Pedro to Since); Ovejas to Tolu, passing through Chalan, Coloso and Toluviejo; and from Chinu to Loricá, passing through San Andres, Chima, Momil and Purísima.

Automatic exchanges of 200 and 100 lines were established at Monteria and Sincelejo, respectively. All other telephone equipment is of the magneto type. Exchanges of 50 lines each were installed at Magangué and Loricá, while San Juan, Corozal, El Carmen and Ovejas have exchanges of 25 lines each. All other towns and villages mentioned in the contract were provided with one telephone each. Connection was made at Cartagena with the city lines and the national radio telephone service.

Bogota-Buenaventura Toll Line

The Bogota-Buenaventura toll line is 570 kilometers in length (357 miles) and provides Bogota with a telephone circuit to the seacoast. The line is operated by the Compania Telefonica Central.

The map at the end of this report shows the area traversed by the toll line. The route closely parallels the railroad right of way between Bogota and Facata as well as that from Ambalema and Ibaque and from Armenia to Buenaventura. At other points, the toll line is located on the old national mule trail or other mule trails, and in still other places it follows the highways.

Repeater stations are located in Cali, Armenia and Bogota in order to obtain a normal average service. There are two metallic circuits all the way with a phantom between them. There are also various local circuits for the intermediate traffic. The line is tied in with the national long distance telephone circuits at Bogota.

Rates

New call rates over Government owned telephone lines were put in operation January 1, 1941, in accordance with the terms of Decree No. 1781 of 1940.

The basic rate is one-half centavo per line kilometer, the minimum charge being twenty centavos. The charge is assessed on the first three minutes of lap time or fraction thereof, and for each additional minute the rate is proportional.

A special discount over designated service lines is established amounting to 50 percent for press conferences, for conversations taking place during holidays

and for those undertaken outside of regular business hours. A special discount of 40 percent is allowable for lawyers talking on legal matters. The Ministry of Posts and Telegraphs is authorized to lower the rates prescribed in the present decree where reductions are made to stimulate the use of the National Telephone Service.

Telephone rates between Bogota and other cities for 1941 are presented in Table V. Gross proceeds from urban and inter-municipal public telephone service in 1940 are shown in Table VI.

Private Telephone Service

Where public telephone service is not available or where supplemental service is needed, some private groups have installed their own systems. This is frequently found in some of the larger haciendas, power plants, mining companies and hospitals. In 1942 there were 1,370 telephones used in providing this service which required 4,991 miles of line.

TABLE V.

Telephone Rates between Bogota and Other Cities, 1941

<u>Name of city</u>	<u>Total rate</u>	<u>Pesos*</u>
	<u>3 Minutes</u>	<u>1 Minute</u>
Abejorral (Antioquia)	1.90	0.60
Aguadas (Caldas)	1.80	0.60
Agua de Dios-Ext. (Cundinamarca)	0.75	0.25
Agua de Dios-Int. (Cundinamarca)	0.80	0.25
Alban (Cundinamarca)	0.40	0.10
Ambalema (Tolima)	1.30	0.40
Aranzazu (Caldas)	1.70	0.55
Armero (Tolima)	1.15	0.35
Bosa (Cundinamarca)	0.30	0.10
Cajica (Cundinamarca)	0.30	0.10
Caqueza (Cundinamarca)	0.40	0.10
Convenio (Tolima)	1.20	0.40
Chia (Cundinamarca)	0.30	0.10
Chipaqué (Cundinamarca)	0.30	0.10
Choconta (Cundinamarca)	0.55	0.15
Choachi (Cundinamarca)	0.30	0.10
Choachi-Termal (Cundinamarca)	0.35	0.10
Facatativá (Cundinamarca)	0.30	0.10
Fomeque (Cundinamarca)	0.40	0.10
Fusagasugá (Cundinamarca)	0.40	0.10
Guaduas (Cundinamarca)	0.70	0.20
Honda (Tolima)	0.90	0.30
La Ceja (Antioquia)	2.05	0.60
La Dorada (Caldas)	1.05	0.30
La Unión (Antioquia)	2.10	0.70
La Unión (Cundinamarca)	0.35	0.10
La Vega (Cundinamarca)	0.50	0.10
Libano (Tolima)	1.25	0.40
Manizales (Caldas)	1.95	0.60
Manzanares (Caldas)	1.25	0.40
Mariquita (Tolima)	1.00	0.30
Medellín (Antioquia)	2.20	0.70
Neiva (Caldas)	1.85	0.60
Pacora (Caldas)	1.70	0.50
Pueblonuevo (Cundinamarca)	0.70	0.20
Puente del Común (Cundinamarca)	0.30	0.10
Rionegro (Antioquia)	2.10	0.70
Salamina (Caldas)	1.60	0.50
San Francisco (Cundinamarca)	0.60	0.20
San Juan de Riosêco (Cundinamarca)	0.60	0.20
Sibate (Cundinamarca)	0.30	0.10
Sonson (Antioquia)	1.95	0.65
Sopo (Cundinamarca)	0.30	0.10
Suba (Cundinamarca)	0.30	0.10
Tunja (Boyaca)	1.00	0.30
Ubaque (Cundinamarca)	0.35	0.10
Une (Cundinamarca)	0.35	0.10
Usme (Cundinamarca)	0.30	0.10
Villapinzón (Cundinamarca)	0.65	0.20
Villeta (Cundinamarca)	0.55	0.15
Viota (Cundinamarca)	0.60	0.20
Zipaquirá (Cundinamarca)	0.35	0.10

* One peso is equivalent to 0.57 dollars in U. S. currency.

TABLE VI

Gross Proceeds in Pesos Resulting from Intermunicipal Public Telephone Service in
Colombia, 1941*.

Departments	Gross Proceeds		
	Urban	Interurban	Total
Antioquia	356,000	112,756	468,756
Atlantico	221,381	1,000	222,381
Bolivar	93,135	5,000	98,135
Cauca	27,000	32,500	59,500
Caldas	180,000	70,000	250,000
Cauca	11,500	---	11,500
Cundinamarca	655,906	---	655,906
Magdalena	23,500	---	23,500
Marino	10,000	3,100	13,100
Norte de Santander	53,173	49,512	102,685
Santander	72,830	36,500	109,330
Solima	33,000	---	33,000
Valle	201,928	---	201,928
Intendencia del Choco	2,416	---	2,416
Telefonica Central	14,345	408,195	422,540
	1,956,114	718,563	2,674,677

The peso is equivalent to 0.57 dollars in U. S. currency.

TELEGRAPH

The telegraph network of Colombia is operated by the Government. In many instances it uses the same lines as the long distance telephone network. As noted under the telephone section, many of the stations have an alternating telephone and telegraph service, that is, telephone service a part of the day and telegraph service during the remaining hours. Most cities have telegraph service.

In 1942 the telegraph network consisted of 14,572 miles of line. Of this total, 11,564 miles were copper wire and 15,826 miles were iron wire. In 1941 the number of telegraph offices in Colombia, including mixed offices of both posts and telegraphs totaled 964. During the year new offices were established at Guarumo (Tolima), Barrios Unidos (Cundinamarca), Bucarasica (Santander del Norte) and Roncesvalles (Tolima).

The length and type of wire as well as the number and type of poles used in each of the 24 zones are shown in Table VII.

Telegraph Circuits

While nearly all the developed area of Colombia is served by the telegraph network, the principal circuits radiate out from Bogota. Because of the relative importance of these circuits, more detailed attention is given to them here. The map at the end of this report shows other points connected by the telegraph system.

In 1941 telegraph circuits out of Bogota included 5 circuits of the Creed System, 19 circuits of the Teleprinter System and 18 circuits of the Morse System.

TABLE VII.

Statistics of Poles and Lines in Use by the Telegraph and Telephone Network of
Colombia, April 1942.

Zone	Place of residence of Supervisor	Length of line (miles)	Number of artificial poles (wood)	Number of natural poles	Tubular poles (iron)	Ingot poles (iron)	Miles of copper wire	Miles of iron wire
1	Bogota	796	8,588	1,003	20	73	1,511	792
2	"	964	6,100	2,803	138	3,692	1,396	1,130
3	Tunja	848	7,801	2,029	14	---	567	1,239
4	Tamara	449	3,430	3,770	---	---	9	449
5	Socorro	614	3,902	2,033	---	---	141	648
6	Bucaramanga	607	5,879	966	---	---	712	498
7	Pamplona	554	3,895	1,057	---	3	225	795
8	Barrancabermeja	430	5,286	1,155	---	541	592	450
9	Fundacion	558	9,375	2,366	---	2	510	499
10	Banco	285	5,752	352	---	---	443	350
11	Barranquilla	393	8,665	164	195	92	793	322
12	Corozal	450	6,432	1,351	---	---	201	509
13	Magangue	503	8,452	2,501	---	4	162	451
14	Medellin	781	5,488	3,750	---	---	220	805
15	Quibdo	268	1,680	3,869	---	---	13	255
16	Santa Rosa de Osos	632	4,952	3,780	---	---	77	632
17	Medellin	631	14,320	587	---	42	860	795
18	Honda	520	6,716	1,377	---	361	808	544
19	Ibague	668	6,517	1,541	372	1,739	161	795
20	Neiva	693	6,939	1,284	---	723	301	598
21	Manizales	642	6,578	1,418	925	---	655	903
22	Cali	813	9,945	985	29	---	795	1,104
23	Popayan	759	7,740	1,390	2	187	445	758
24	Pasto	673(1)	6,205	2,526	---	---	168	505
Totals		14,531	160,637	44,057	1,695	7,459	11,564	15,826

(1) Estimated from length of wire.

Summary:

Total length of line	14,531 miles
Length of copper wire	11,564 "
" " iron	15,826 "
Total length of wire	27,390 "
Number of artificial poles	160,637
" " natural	44,057
" " iron	9,154
Total number of poles	213,848

Morse Circuits

There were 18 Morse circuits in operation out of Bogota in 1941. The localities served by each of these circuits were as follows:

Circuit "A"

Barbosa
Cito

Circuit "B"

Villavicencio
Puerto Lopez
Cabuyaro
Restrepo Meta
Cunural
Acacias Colonia
Acacias Corregto
San Martin

Circuit "D"

Sasaima
Villeta
Guaduas
Chaguani
Nimaima
Vergara
Tobia
Quebradanegra
Utica
L. Pena
La Palma
Yacopi
Ibama
Caparrapi
Nocaima

Circuit "E"

Soata
Boavita
Capitanaje
Cocuy
Chiscas
El Espino
San Mateo
San Joaquin Boy
Guacamayas
Chita
Mogotes
Onzaga
Malaga
Carcasi
Cerrito
Chitaga
Concepcion
Enciso
Macaravita
San Jose de Miranda
San Miguel
San Gil
Paramo
Valle S

Circuit "F"

Bogotasur
Usme
Chipaque
Unc
Caqueza
Fosca
Gutierrez
Guctame
Ubaque
Choachi
La Union Cund.
Fomeque

Circuit "H"

Cipacon
El Ocaso
San Javier
La Mesa
E. Colegio
El Triunfo
Viota
Pueblo Nuevo

Circuit "I"

Alban
Guayabal
Bituima
Viani
San Juan Riosoco
Beltran
Ambalema
Alvarado
Venadillo
Junin Tol.
Lerida
Sta. Isabel
Sta. Teresa
Anzoategui

Circuit "K"

Zipaquira
San Cayetano
Paine
Pacho
El Penon
Topaipi

Circuit "L"

Suba
Puerto del Comun.
Cajica
Cogua
Nemocon
Tausa
Sutatansa
Ubato

Circuit "L" (cont.)

Cucunuba
Coper
Carupa
Lenguazaque
Guacheta
Faguene
Susa
Simijaca

Circuit "M"

Chiquinquira
Albania
Briceno
Jesus Maria
Maripi
Muzo
Saboya
Puente Nacional
Togui
Guavata
Velez
Bolívar S.
Guapota
La Paz S.
San Jose de Pare
San Jose de Suaita
Suaita
Sucre
Santana
Guepsa
Guadalupe

Circuit "N"

Fontibon
Madrid
Bojaca
Facatativa
La Florida
Anolaima
Quipile
Cachipay
La Esperanza
San Joaquin

Circuit "O"

Chia
Cota
Funza
Tabio
Tenjo
Subachoque
Supata
San Francisco
La Vega

Circuit "Q"

Sopo
Tocancipa
Gachancipa
Sesquile
Suesca
Choconta
Nueva Colon
Umbita
Villapinzon
Turmeque
Ventaquemada
Macheta
Tibirita
Guateque
Almeida
Guayata
Manta
Somondoco
Sutatenza
Tenza
Capilla de Tenza
Garagoa
Campohermoso
Macanal
Miraflores
Zetaquirá

Circuit "P"

Mosquera
Tona
San Antonio
Anapoima
Apulo
Tocaima
Jerusalem
Guataqui
Puli
Agua de Dios (Ext.)
Agua de Dios (Int.)
Nilo

Circuit "T"

Bosa
Soacha
Sibate
Fusagasuga
Silvania
Pasca
Cumaca
Tibacuy
Arbelaez
Pandi
San Bernardo
Icononzo
Melgar

Circuit "T" cont.

Carmen
Suarez
Cunday
Andalucia

Circuit "W"

Armenia
Caicedonia
Filandia
Montenegro
Circasia
Salento
Toche
Quebradanegra
Tebaida
Barcelona
Quimbaya

Circuit "Z"

B. Unidos
Usaquen
La Calera
Guasca
Guatavita
Junin Cund.
Gacheta
Ubala
Gachala
Gama
Medina

Circuit Chapinero

Chapinero

The average daily volume of traffic sent over the above Morse circuits in 1941 is as follows:

<u>Circuits</u>	<u>Number of Daily Messages</u>	<u>Circuits</u>	<u>Number of Daily Messages</u>
A	70	M	420
B	280	N	240
D	390	N	150
E	460	O	450
F	290	P	280
H	300	T	290
I	240	W	240
K	400	Z	220
L	380	Chapinero	500
		Total	5,600

Teleprinter Circuits

The Teleprinter system is used where the service requirements are greater than for the Morse system but less than the capacity of the high speed Wheastone Creed.

Teleprinter apparatus is used on the following circuits:

Bogota - Manizales	Cali - Pasto
Bogota - Neiva	Cali - Buenaventura (now service)
Bogota - Honda	Neiva-Popayan
Bogota - Cucuta	Pasto - Ipiales (new service)
Bogota - Ibague	Barranquilla - Cartagena
Bogota - Girardot	Barranquilla - Banco (Magdalena)
Manizales - Medellin	Banco (Magdalena)-Bucaramanga
Manizales - Cali	Bucaramanga - Cucuta (new service)
Manizales - Pereira	Bucaramanga - Ocana
	Cucuta - Pamplona

Two teleprinter machines are used for each circuit.

The average daily number of messages sent over the major circuits of the teleprinter system are as follows:

<u>Circuit</u>	<u>Daily number of messages</u>
Bogota-Honda	800
Bogota-Girardot	700
Bogota-Neiva	900
Bogota-Ibague	800
Bogota-Cucuta	750
Bogota-Manizales	<u>900</u>
Total	4,850

Creed Circuits

The Wheastone Creed Apparatus is used on the circuits which carry a high daily volume of traffic. The circuits used and the average daily volume of traffic handled are as follows:

<u>Circuit</u>	<u>Number of messages</u>
Bogota - Cali	1,800
Bogota - Medellin	1,400
Bogota - Tunja	1,500
Bogota - Bucaramanga	1,900
Bogota - Barranquilla	<u>1,700</u>
Total	8,300

Equipment

Apparatus used in the circuit circuits:

5 translators
5 perforators
5 automatic transmitters
5 receiving reperforators
20 circuit switchboard

Reserve apparatus:

4 perforators
3 translators
3 receiving reperforators
4 automatic transmitters

Statistics of Traffic

The telegraph system in 1940 carried a total number of 6,255,897 messages consisting of 87,577,478 words. The value of the messages was 1,404,145 pesos (approximately 754,917 U. S. dollars).

Statistics of traffic according to types of messages sent in 1940 are as follows:

<u>Class of telegram</u>	<u>Number of telegrams</u>	<u>Number of words</u>	<u>Value (pesos)*</u>
Domestic	4,164,988	44,359,222	1,379,688
International	17,339	249,300	7,586
Press	12,172	1,635,758	16,872
Service	148,400	1,640,367	
Official	<u>1,912,998</u>	<u>39,712,831</u>	
Totals	6,255,897	87,577,478	1,404,146

* The peso is equivalent to 0.57 dollars in U. S. currency.

RADIO COMMUNICATION

Domestic public radio communication service in Colombia is provided by stations operated by the Ministry of Posts and Telegraph and other official units. Other stations are operated by the All America Cable and Radio Corporation, a subsidiary of the American owned International Telephone and Telegraph Company, the Marconi Company, associated with the British-owned Cable and Wireless Company, and the Central Telephone Company, a subsidiary of the American-owned Associated Telephone and Telegraph Company.

The stations operated by the Ministry of Posts and Telegraphs as a part of the national radio telegraph system, together with their station characteristics, are listed in Table VIII.

Wireless stations for public service operated by privately owned companies are as follows:

<u>Locality</u>	<u>Service</u>	<u>Company</u>
Bogota	Radiotelegraph interior & exterior	Marconi Company
Barranquilla	" "	" "
Cali	" "	" "
Medellin	" "	" "
Barranquilla	" "	All America Cable
Bogota	" & exterior	" " "
Medellin	" "	" " "
Segovia	" "	Frontino Gold Mine
Otu (Antioquia)	" "	Aviaca-Frontino
Bogota	Radiotelephone & exterior	Central Telephone Co
Aguasclaras	" "	" "
Barranquilla	" "	" "
Cartagena	" "	" "
Cucuta	" "	" "
El Centro (Barranca)	" "	" "
Medellin	" "	" "
Neiva	" "	" "
Pasto	" "	" "
Popayan	" "	" "
Santa Marta	" "	" "

Note: No detailed data are available concerning these stations.

Statistics of Traffic

The National Radio of Colombia operated by the Ministry of Posts and Telegraphs provided the following service during the year 1940.

<u>Service</u>	<u>Number of messages</u>	<u>Number of words</u>	<u>Value (Pesos)</u>
Private messages to interior	370,166	4,485,820	217,785
Private messages to exterior	7,964	118,829	25,664
Press messages	547	49,582	1,062
Official and service messages	<u>57,235</u>	<u>1,067,142</u>	<u>---</u>
Totals	435,912	5,721,373	244,511

The Marconi Radio Company provided the following service during the year 1940:

<u>Class of service</u>	<u>Number of messages</u>	<u>Number of words</u>	<u>Value (pesos)</u>
Messages to interior	45,650	444,939	32,980
Messages to exterior	29,225	443,300	211,443
Press messages	1,336	113,772	2,034
Official and service messages	<u>4,447</u>	<u>91,430</u>	<u>---</u>
Totals	80,658	1,093,491	246,457

No data are available on the service provided by the other companies.

Rates

Printed schedules of the 1940 tariffs of the National Radio System and the Marconi Company are available.

TABLE VIII

National Radiotelegraph Stations in Colombia, April 1942.

<u>City</u>	<u>Call Letters</u>	<u>Frequency Kilocycles</u>	<u>Power Watts</u>	<u>Remarks</u>
Acandí	HJL4	6685.2	200	
Arauca	HKR2	7310	150	
"	HKR3	3655	150	
Barrancabermeja	(HJH 3	3399.5	200	
	(HJH 4	6799	200	
Barranquilla	L	286	190	
"	HKA	500	500	Maritime
"		428		
"	(HKA2	8824	1,000	
	(HKA3	4412	1,000	
"	(HKA4	8300	500	
	(HKA5	4150	500	
"	(HKA8	7385	150	
	(HKA9	3692.5	150	
Bogotá	(HK0	15525	2,500	
	(HK03	9785	2,500	
"	(HK02	15582	5,000	
	(HK04	8042.5	5,000	
	(HJN	4404.8	1,300	
	(HJN2	8809.7	1,300	
	(HJN3	8090	1,300	
	(HJN4	16180	1,300	
"	(HKX	8204	1,000	
"	(HKX6	4102	1,000	
"	HKX2	5978	1,000	
"	HKX3	7696	1,000	
"	HKX4	6780	750	
"	HKX7	8765	500	
"	HKX8	4110	500	
"	(HKX9	8740	1,000	
"	(HKX5	4370	1,000	
Bucaramanga	(HJH	6697.5	1,000	
	(HJH2	3348.1	1,000	
Buena Ventura	HJU	500	500	Maritime
		441		
		416		
		352		
		333.3		
"	(HJU2	9063.5	1,000	Aeronautical Sta.
	(HJU3	8333	1,000	
	(HJU4	4531.7	1,000	
	(HJU5	5555.5	1,000	Aeronautical Sta.
Cali	(HJE	9100	1,000	
"	(HJE3	4550	1,000	
"	HJE2	1650	500	
Cartagena	HJQ	5500	500	
		435		
"	(HJQ2	8108	1,000	
	(HJQ3	4054	1,000	

TABLE VIII
(continued)

<u>City</u>	<u>Call Letters</u>	<u>Frequency Kilocycles</u>	<u>Power Watts</u>	<u>Remarks</u>
Cravo Norte	(HKR8)	8930	150	
	(HKR7)	4465	150	
Cucuta	(HJF)	7340	500	
	(HJF2)	3600	500	
El Charco	HJJ4	7425	150	
Guapi	HJJ8	7475	150	
Istmina	HJL5	8800	250	
Jurado	HJL9	8780	250	
Leticia	HJM	10600	500	
Lopez (Cauca)	(HJJ 5)	7365	150	In construction
	(HJJ 6)	7382.5	150	
Manizales	HJK	7430	150	
	HJK6	3715	150	
"	HJK4	7450	150	
	HJK5	3725	150	
Medellin	(HJD)	6771	1,000	
	(HJD2)	3385.5	1,000	
"	(HJD3)	8130	500	
	(HJD4)	4065	500	
"	(HJD6)	7480	150	
	(HJD7)	3740	150	
Mitu (Vaupes)	(HKJ4)	8605	400	Location not shown on map
	(HKJ6)	8919	150	
Monteria	HJQ4	7440	150	
Neiva	(HJE6)	4377	200	
	(HJE7)	8754	200	
Nuqui (Choco)	HJL6	8750	250	
Ocana	HJF4	7953	150	
Pasto	(HJJ)	8305	200	
	(HJJ2)	4152.5	200	
Pereira	(HJK2)	7410	150	
	(HJK3)		150	
Petrolea (Catatumbo)	(HJF6)	7400	150	In construction
	(HJF7)	3700	150	Location not shown on map

TABLE VIII
(continued)

<u>City</u>	<u>Call Letters</u>	<u>Frequency Kilocycles</u>	<u>Power Watts</u>	<u>Remarks</u>
Pizarro	HJL8	4410	250	Location not shown on map
Jopayan	(HJE8)	4256	200	
	(HJE9)	8713.1	200	
Providencia (Isla)	(HJA5)	4454.4	150	Location not shown on map
	(HJA4)	8908.9	150	
Puerto Berrio	HJD8	7948	150	
Puerto Carreno	(HKR)	7420	150	
	(HKR4)	3710	150	
Puerto Merizalde	HJJ7	7490	150	Location not shown on map
Quibdo	(HJL)	6737	200	
	(HJL3)	3368	200	
Riosucio (Choco)	HJL7	8728	250	
San Andres (Isla)	HJA	8695	250	Location not shown on map
San Andres (Isla)	(HJA2)	8746.8	200	
	(HJA3)	4373	200	
San Jose del Guaviare (Vaupes)	(HKJ5)	8939	150	
Santa Marta	W	300	190	Maritime-Range 100 N.M.
" "	HJW	500	1,000	Maritime
		400		
		250		
" "	(HJW2)	6800	300	
	(HJW3)	8350	300	
Sincelejo	HJQ8	6700	150	
Tumaco	HJJ3	7495	150	
Turbo	HJL2	6620	100	

Note: See map at end of report for location of these stations.

Private Radiotelephone Service

Colombia has a number of radiotelephone stations operated by various companies for their own private use. Decree No. 2580 of October 17, 1936, provided that the Ministry of Posts and Telegraphs could authorize private parties to install and operate radiotelephone stations for their exclusive use at any points where public telegraph, telephone, radiotelephone, or radiotelegraph service is not available. Permits for the installation of private radiotelephone transmitters were to be issued on the prior payment of 50 pesos annually for each instrument of 10 watts or

less and 250 pesos annually for transmitters of greater output. Operations must be in accordance with the regulations and obligations established by the Decree.

In 1941 the following radiotelephone stations for private service were in operation:

<u>Locality</u>	<u>Service</u>	<u>Proprietor</u>
Anori	Interior	Cia. Minera El Charcon
Cartagena	"	Cia. Nuevo Acueducto de Cartagena
Gambote (Bolívar)	"	Cia. Nuevo Acueducto de Cartagena
Bogotá	"	Ingenio Central San Antonio
Anapoima	"	" " " "
Andagoya	"	Cia. Choco Pacifico
Bobedo	"	" " "
Pato	"	Consolidated Gold-Dredging Co.
El Bagre	"	" " " "
Vega (Providencia)	"	" " " "
Covenas	"	South American Gulf Oil Co.
Convencion	"	" " " "
Petrolca	"	" " " "
Soledad (Atlántico)	" (also radio- telegraph)	Colombian Petroleum Company
Santanderes (Concesion Barco)	"	South American Gulf Oil Co.
Rio de Oro	"	Colombian Petroleum Company
Tibu	"	" " "
Vuelta Largo	"	Sanabria Mines Ltd.
Las Gongoras	"	" " "
Buenaventura	"	Ferrocarriles Nacionales
Antioquia	" (portable)	Cia. Petroles Shell de Colombia
Santanderes	" "	" " " "
Tolima	" "	" " " "
Boyaca	" "	" " " "
Bolívar	" "	" " " "
Caldas	" "	" " " "
Cundinamarca	" "	" " " "
Meta (Intendencia)	" "	" " " "
Aranca (Comisaria)	" "	" " " "
Vichada (Comisaria)	" "	" " " "
Caqueta (Comisaria)	" "	" " " "
Puerto Lievano	" "	Texas Petroleum Company
Territorio Vasquez	" "	" " "
Atlántico	" "	" " "
Bolívar	" "	" " "
Magdalena	" "	" " "
Antioquia	" "	" " "
Santander	" "	" " "
Departamentos de Antioquia, Bolívar, Caldas, Cundinamarca, Magdalena, Santander, Tolima	" "	Tropical Oil Company
Bahia Honda	"	Salinas Maritimas
Manaure	"	" "
Candelaria (Valle)	"	Vicanor Hurtado
Cali (Ingenio Mayaguez)	"	" "
Anori (El Hatillo)	"	Tulio Ospina Perez
Simiti (Benito)	"	" "
Envigado (Antioquia)	"	Compania de Tejidos Rosellon
Medellin	"	" " "
Bitaco (Valle)	"	Diocesis de Cali
Cali	"	" " "

Press Service

The press services represented in Colombia operate stations for receiving press notices. The location of these stations, the name of the station, and the press service represented are as follows:

<u>Location</u>	<u>Name of station and/or operator</u>	<u>Press Service</u>
Barranquilla	La Prensa- C. Martinez Aparicio	United Press
"	El Heraldo-Juan B. Fernandez	Associated Press
"	Emisoras Unidas - Paez Reina and Bernal	British Broadcasting
"	Emisoras Atlantica - Alex Blanco	Associated Press
		Havas
		British Broadcasting
		Paris Mundial
"	Emisora Voz de la Patria Vasallo Gomez	Stefani, Paris Mundial
"	David H. Martinez	British Broadcasting
"	Francisco Gaitan Pardo	Reuter Agency
Bogota	G. Perez Sarmiento	United Press
"	Louis Millot	Havas Agency
"	J. Cardenas Munoz	Associated Press
"	Francisco Gaitan Pardo	Reuter Agency
"	Carlos J. Villar	Associated Press
"	La Voz de Bogota	Associated Press
Cartagena	Francisco Gaitan Pardo	Reuter Agency
Cali	Relator - G. Perez Sarmiento	United Press
"	Francisco Gaitan Pardo	Reuter Agency
Medellin	Francisco Gaitan Pardo	Reuter Agency
"	Juan Arbolaez Quijano	Associated Press

POLICE COMMUNICATIONS

While plans have been projected from time to time for installation of a two-way radio system, installations had not yet been made in 1939. No data are available on the usage of a police telephone system.

AIRWAYS RADIO

Prior to 1939 comparatively little progress had been made in the use of radio for aerial navigation and communications. By 1939 some radiotelegraph and goniometric stations had been established at civil airports under the control of the Department of Civil Aeronautics with most of the apparatus being produced in the radio laboratories of the air companies. The Department of Posts and Telegraphs operates an aeronautical station in Buenaventura for both official and public use. (See Table VIII)

The Department of Civil Aviation, in its Resolution No. 14 of October 18, 1939, allocated the following frequency bands to civil aircraft operating in Colombia and on international routes touching Colombia:

<u>Kilocycles</u>	<u>Kilocycles</u>
5500-5600	12,770-12,830
6500-6600	17,250-17,375
8200-8230	23,200-23,380

The frequency channels of 6583, 6590, 6597, 6557, 8²17, 8225, 8233, 11381, 11394, 17254, 23301, and 23342 kilocycles are expressly reserved for civil aircraft operating on international routes.

The following frequency bands are allocated by the same Resolution to airport stations in Colombia:

<u>Kilocycles</u>	<u>Kilocycles</u>
3450-3500	6900-7000
5640-5700	8645-8680
5850-5950	10480-10550

The increased use of air transportation to get rubber out of Colombia has necessitated the construction of additional airport stations. The Avianca Company is operating these planes and providing the airports.

III. INTERNATIONAL COMMUNICATIONS

INTERNATIONAL LAND LINES

Very little data are available on international land lines in Colombia. One map indicates a telegraph circuit from Ipiales to Tulcan, Ecuador. Colombian publications also indicate that there is an interchange of telegraph traffic between Colombia, Bolivia, Peru, Ecuador and Venezuela.

Statistics of telegraph traffic for the year 1940 shows a total number of 17,339 telegrams sent to the exterior as compared with the 4,164,988 telegrams transmitted in the interior.

RADIO COMMUNICATIONS

The radio telephone and radio telegraph are used to a considerable extent in carrying on international communications as well as internal communications. The four companies carrying on this service are the National Radio, Marconi Radio, the All America Cables and Radio Company, and the Central Telephone Company. The identity of these companies and statistics of traffic were presented under internal communications.

There are direct radio communications between Bogota and the cities of New York, Mexico City, Panama, Caracas, and Lima. Bogota also has indirect connections through the stations of Leticia and Santa Marta with stations at Manaus, Brazil, Iquitos, Peru, and Habana, Cuba.

Rates

New international telegraphic rates were placed in effect in the early part of 1942. These rates refer to all messages sent over the National Radio from any telegraph or radiotelegraph office in the country.

To Mexico City, Puerto Mexico, Salina Cruz, Tampico and Vera Cruz the rates are:

	(Pesos)
For ordinary messages, per word	0.67
Code messages, minimum of 5 words, per word	0.40
Deferred messages, minimum of 5 words; per word	0.33 $\frac{1}{2}$
Night letters, 25 words or less	5.59
For each additional word	0.22 $\frac{1}{3}$
To other offices the rates are:	
For ordinary messages, per word	0.73
Code messages, minimum of 5 words, per word	0.44
Deferred messages, minimum of 5 words, per word	0.36 $\frac{1}{2}$
Night letters, 25 words or less	6.09
For each additional word	0.24 $\frac{1}{3}$

Note: The peso is equivalent to 0.57 dollars in U. S. currency.

CABLES

Cable service in Colombia is provided by the All America Cables and Radio Company, a subsidiary of the American-owned International Telephone and Telegraph Company. Offices are maintained in the following cities: Bogota, Cali, Barranquilla, Cartagena, Buenaventura and Medellin.

The following list shows the landing points, the date of laying, the number of conductors and the length of the cables directly connecting Colombia.

<u>Landing points</u>	<u>Date laid</u>	<u>Number of conductors</u>	<u>Length in nautical miles</u>
Maracaibo (Venezuela) - Barranquilla	1930	1	422
Colon (Panama) - Cartagena	1920	1	313
Cartagena - Barranquilla	1927	1	79
Balboa (Panama) - Buenaventura	1925	1	411
Buenaventura - S. Elena	1925	1	566
Totals		5	1,791

Statistics of Traffic

The number and value of the various types of cable messages which entered into Colombia's cable traffic during 1940 are as follows:

<u>Type of Message</u>	<u>Number of messages</u>	<u>Number of words</u>	<u>Value (Pesos)</u>
Domestic	92,461	1,103,081	51,956
International	89,624	1,429,726	601,241
Press	3,394	243,145	2,431
Official and service	2,444	100,977	
Totals	187,923	2,876,929	655,628

Note: The peso is equivalent to 0.57 dollars in U. S. currency.

Rates

Between Bogota, Cali, Medellin, Barranquilla, Cartagena, and Buenaventura, the rate is 10 centavos per word in plain language and 6 centavos per word in code.

IV RADIO BROADCASTING

Regulations

Radio broadcast stations are grouped by the telecommunications law into two general categories. The principal stations are the commercial broadcast stations which are privately owned and operated under licenses issued by the Ministry of Posts and Telegraphs. In addition to the commercial stations there are several cultural stations which do not accept advertising and broadcast only speeches, concerts, and other cultural programs.

There are some general requirements governing contracts for radio broadcasting stations which indicate Colombia's policy towards these stations. Decree No. 437 of March 5, 1941, provided that the construction and operation of Class I and III radio stations would be subject to contract. Resolution No. 1067 of March 21, 1941, outlines the general provisions which must be incorporated in contracts covering Class I stations, the "private broadcasting stations exploiting commercial propaganda by means of conferences, concerts and other services of general interest." The principal provisions of the contracts may be summarized as follows:

1. Modern equipment, adequate frequency controls, subsequent improvements to keep pace with technical progress;
2. Restriction of the use of station to the services for which licensed;
3. Station subject to Government supervision (in case of war, internal commotion, or even the danger of alteration of the public order the Government reserves the right to close the station or have the equipment dismounted without indemnifying the concessionaire);
4. Adherence to national and international regulations;
5. Programs to include conferences, national and international news of general interest, music, et cetera, but not anything which would affect the morals or security of the country, its international relations, the honor of persons, due respect of the authorities, obedience of law, or public order;
6. Political propaganda barred except by permission of the Government, requested twenty-four hours in advance of the program;
7. Upon request, the concessionaire is obligated "to proceed, in accord with the Government, in all matters relating to the execution of programs;"
8. Announcers to have a license issued by the Ministry of Posts and Telegraphs;
9. Concessions restricted to one year subject to extension for similar periods; concessionaire being made civilly and criminally responsible for all transmissions.

Stations

There are 108 broadcasting stations in Colombia. Of this total there are 83 stations operating on the long wave lengths and 25 operating on short wave. These stations operate in 30 cities in Colombia. A complete list of the stations is given in Table IX.

Hours of Operation

Radio stations in Colombia operate from 6 to 15 hours per day with most stations operating from 8 to 12 hours per day.

Equipment

No data are available on the make and age of the broadcasting equipment. Recent reports indicate that the supply of tubes in Colombia is very limited. As the stations operate with a minimum of capital the tendency has been to carry few stocks. Most of the tubes in operation had been used for six months in September 1942, and practically no reserve tubes were on hand. Thus several stations face the prospect of having to shut down when their tubes in use are gone. There is also a serious shortage of tubes for receiving sets.

Advertising

Advertising is largely local in character, and it consists chiefly of short announcements inserted at regular intervals in station-sponsored programs. Privately sponsored programs of 15 minutes, one-half or one hour duration are contracted for by the larger industrial and commercial firms in Colombia. With the exception of the cultural stations, all accept advertising.

With singular exceptions the commercial broadcasting stations are individually owned or controlled. Consequently, there is little chain broadcasting and competition between stations for advertising, which is the station owner's main source of income, is keen. Thus, advertising rates are comparatively low.

In general, the programs broadcast by Colombian stations consist in large part of phonograph records and advertising, the latter being in the Spanish language.

Number of Receiving Sets

Since licenses are not required by individuals owning radio receiving sets, accurate statistics are not available concerning the number of sets in use in Colombia. However, it is estimated that in 1941 there were 166,000 sets in use. No set tax is imposed.

TABLE IX.

Broadcasting Stations in Colombia, May 1942.

<u>City</u>	<u>Call Letters</u>	<u>Operator and Name of Station</u>	<u>Frequency Kilocycles</u>	<u>Power Watts</u>
Aguadas	HJFJ	Roberto Florez Cultural	1500	25
Armenia	HJFI	J. Palacios Pregones del Quindio	1540	1,000
"	HJFM	Botero y Compania La Voz de Armenia	1210	500
Barranquilla	HJAK	Clemente Vassalo G. La Voz de la Patria	1310	500
"	HJAI	Julian Melandez La Voz del Litoral	1370	500
"	HJAS	Miguel A. Ruiz Emisora Variedades	1500	250
"	HJAI	Eliecer Velasco Emisoras Unidas	1190	1,000
"	HJAT	Delfina v. de Haayen Radio Barranquilla	1275	1,000
"	HJAA	Alfonso Rosales N. Ecos de la Costa	1330	500
"	HJAH	Alex Blanco Emisora Atlantico	1050	1,000
"	HJAJ	Julio Balderrama	1220	500
Bogota	HJCC	Gustavo Uribe Th. La Voz de Bogota	870	5,000
"	HJCE	Gustavo Uribe Th. Ondas Bogotanas	1220	1,000
"	HJCI	Manuel J. Gaitan Voz de la Victor	810	2,500
"	HJCJ	Manuel J. Gaitan Radio Mundial	1380	500
"	HJCN	Roberto Laignelet Ondas de los Andes	1335	500
"	HJCK	Jorge Anez Ecos del Tequendama	1290	500
"	HJCB	Roberto Ramirez G. Nueva Granada	1105	1,000
"	HJCM	Roberto Ramirez G. Nueva Granada	970	500
"	HJCU	Cristobal Paez G. Radio Cristal	720	5,000
"	HJCG	Luis Julio Bernal L. Radio Santafe	1,060	1,000
"	HJCZ	Cipriano Rios Hoyos Voz de Colombia	1,040	2,500
"	HJCO	Jesus Maria Garcia Radio Suramerica	1,160	1,000
"	HJCR	Radiodifusora Nacional	1,200	5,000

TABLE IX.
(continued)

<u>City</u>	<u>Call Letters</u>	<u>Operator and Name of Station</u>	<u>Frequency Kilocycles</u>	<u>Power Watts</u>
Bogota	(1)HJCS	C. E. Arboleda Radio Continental	920	50,000
Bucaramanga	HJGK	Francisco A. Bueno Radio Santander	1280	500
"	HJGN	Francisco A. Bueno Ondas Bumanguesas	1360	1,000
"	HJGE	Gustavo Sorzano J. Radio Bucaramanga	1130	1,000
Buenaventura	HJES	H. Quintero Andagoya	1525	100
Buga	HJEP	J. Ortiz Marquez Voces de Occidente	1485	500
"	HJEI	H. Bueno Delgado Emisora Guadalajara	1410	100
Cali	HJEB	Eduardo Cordoba La Voz del Valle	1150	1,000
"	HJEE	Jose T. Calderon Radio Cali	1090	500
"	HJEC	Rafael Angulo La Voz de Colombia	1300	500
"	HJEF	H. Bueno Delgado Voz de Higueronia	1340	500
"	HJEL	H. Bueno Delgado Radio Sport	1260	500
"	HJEN	Alfonso Mesa Vargas Radio Cultura	1370	500
"	HJEM	Arturo Salazar Radio Palmira	1510	500
"	HJER	C. Mendoza Mazuera Radio Comercial	1395	500
Cartagena	HJAD	Rafael Fuentes Laboratorios Fuentes	1440	250
"	HJAF	Rafael Fuentes Laboratorios Fuentes	1240	500
"	HJAR	Loquerica Hermanos Radio Colonial	1400	500
Cartago	HJEO	Daniel Benitez Aires de Palatino	1230	500
Cionaga	HJBE	Elvira de Pereira Ondas del Magdalena	1460	250
Cucuta	HJBC	Pompilio Sanchez C. La Voz de Cucuta	1270	500
Girardot	HJCL	Carlos J. Sanchez Radio Girardot	1460	100
"	HJCV	Antonio Usecho R. Radio Estrella	1430	100
Ibague	HJFG	Vicente Gaitan R. La Voz del Tolima	1500	100
"	HJFP	Mauro Cadavid S. Cultural	1550	100

(1) This is the largest long wave station in Colombia. The equipment was bought secondhand in San Francisco for \$35,000.

TABLE IX.
(continued)

<u>City</u>	<u>Call Letters</u>	<u>Operator and Name of Station</u>	<u>Frequency Kilocycles</u>	<u>Power Watts</u>
Ibague	HJFL	Luis E. Martinez Ondas de Ibague	1440	250
Libano	HJFO	Hector E. Giraldo C. Ondas del Ruiz	1310	100
Magangue	HJAC	M. Agustin Varela La Voz de Magangue	1420	100
Manizales	HUFD	Francisco Jaramillo Radio Manizales	1390	500
"	HJFX	Antonio Pinzon H. Emisora Electra	600	1,000
Medellin	HJDQ	F. Restrepo Alvarez Emisora Claridad	1320	1,000
"	HJDR	Camilo Torres P. La Voz del Triunfo	1380	500
"	HJDT	Alfonso Jaramillo Radio Nutibara	1150	500
Medellin	HJDK	Luis Ramos Voz de Antioquia	1250	500
"	HJDC	Francisco Cuartas Ecos de la Montana	1360	500
"	HJDU	Universidad Antioquia	1490	250
"	HJDM	Prospero Aguirre Radio Cordoba	1520	1,000
"	HJDL	Jaime Tobon R. Bolivar Broadcasting	1480	500
"	HJDA	Humberto Restrepo A. Emisora Siglo XX	1285	500
Monterria	HJAM	Julio A. Sanchez T. Ondas del Sinu	1210	250
"	HJAL	J. Cesar Patino Emisora Arsenipur	1465	500
Neiva	HJFN	Vicente Gaitan Rondon Ondas del Huila	1420	100
Ocana	HJBF	L. R. Linero G. La Voz de Ocana	1525	500
Palmira	HJEJ	Rafael Angulo Armonias del Palmar	1460	500
"	HJEQ	Regulo Benitez P. Ondas del Palatino	1180	500
Pasto	HJHA	Luiz F. Martinez Radio Narino	1350	500
"	HJHB	N. Bueno Delgado Ecos de Pasto	1170	500
Pereira	HJFE	Cesar Arango Mejia La Voz de Pereira	1470	500
"	HJFF	Antonio J. Giraldo C. Ondas del Otun	1350	1,000

TABLE IX.
- (continued)

<u>City</u>	<u>Call Letters</u>	<u>Operator and Name of station</u>	<u>Frequency Kilocycles</u>	<u>Power Watt</u>
Pereira	HJFQ	Marceliano Ossa M.	1120	500
Popayan	HJEA	Jesus M. Ormaza Radio Colonial	1500	500
"	HJEG	Mercedes de Valencia Voz de Belalcazar	1450	250
Santa Marta	HJBH	Jose M. Conde Radio Magdalena	1410	500
" "	HJBJ	Julio A. Sanchez T. Radio Santa Marta	1140	500
Santander	HJEH	Escuela R. Tello	1550	175
Sevilla	HJET	Daniel Benitez Radio de Sevilla	1510	250
Tocaima	HJCP	Ruperto Aguilera L. Buen Suceso	1530	250
Tulua	HJEK	H. Bueno Delgado Radio Tulua	1430	100
Tunja	HJGA	Pedro P. Martinez Radio Boyaca	1425	250
<u>Shortwave Stations</u>				
Armenia	HJFH	Botero y Compania La Voz de Armenia	4875	750
Barranquilla	HJAB	Eliecer Velasco Emisoras Unidas	4785	2,500
"	HJAG	Alex Blanco Emisora Atlantico	4905	750
Bogota	HJCF	Gustavo Uribe Th. La Voz de Bogota	6073	750
"	HJCH	Manuel J. Gaitan Voz de la Victor	4895	750
"	HJCD	Roberto Ramirez G. Nueva Granada	6160	5,000
"	HJCA	Cristobal Paez G. Radio Cristal	4855	1,000
"	HJCX	Cipriano Rios Hoyos Voz de Colombia	6018	750
"	HJCW	Jesus Maria Garcia Radio Suramerica	4945	750
"	HJCT	Radiodifusora Nacional	9655	2,500
"	HJCQ	M. de E. Nal. Cultural	4955	500
Bucaramanga	HJGB	Francisco A. Bueno Radio Santander	4775	2,500
"	HJBD	Gustavo Sorzano J. Radio Bucaramanga	9630	650

TABLE IX.
(continued)

<u>City</u>	<u>Call Letters</u>	<u>Operator and Name of station</u>	<u>Frequency Kilocycles</u>	<u>Power Watts</u>
Cali	HJEX	C. Mendoza Mazuera Radio Comercial	4865	2,500
"	HJED	Eduardo Cordoba La Voz del Valle	4825	1,000
Cartagena	HJAE	Rafael Fuentes Laboratorios Fuentes	4965	750
"	HJAP	Lequerica Hermanos Radio Colonial	4925	750
Cucuta	HJBB	Pompilio Sanchez C. La Voz de Cucuta	4815	750
Manizales	HJFB	Francisco Jaramillo Radio Manizales	6105	1,000
Medellin	HJDP	F. Restrepo Alvarez Emisora Claridad	4885	2,500
"	HJDE	Luis Ramos Voz de Antioquia	6145	5,000
"	HJDX	Francisco Cuartas Ecos de la Montana	4795	750
Pereira	HJFA	Cesar Arango Mejia La Voz de Pereira	6054	750
"	HJFK	Sociedad Voz Amiga La Voz Amiga	6097	2,500
Quibdo	HJDG	Direccion Educacion Voz del Choco	4805	150

Note: See map at end of this report for location of stations.

V. AMATEUR RADIO

The operation of amateur radio stations, under government license which is granted only to Colombian citizens, is authorized by the telecommunications law of 1936. The latest data show 62 licensed, amateur radio stations in 1941. The location of these stations, call letters, and name of the operator are given in Table X. In the interests of national security these licenses were cancelled by Decree 2190 issued December 19, 1941.

Amateur station operators are practically unorganized as the majority of them have dropped their memberships in the Colombian Radio League, Apartado 330, Bogota, an organization formed to promote and stimulate amateur interest in the science of radio communication.

Amateur transmitters are mainly constructed by the owners with parts ordered abroad or purchased locally from importers. The receivers used are of types regularly sold for home reception, although in a few instances commercial type communication receivers have been purchased.

TABLE X

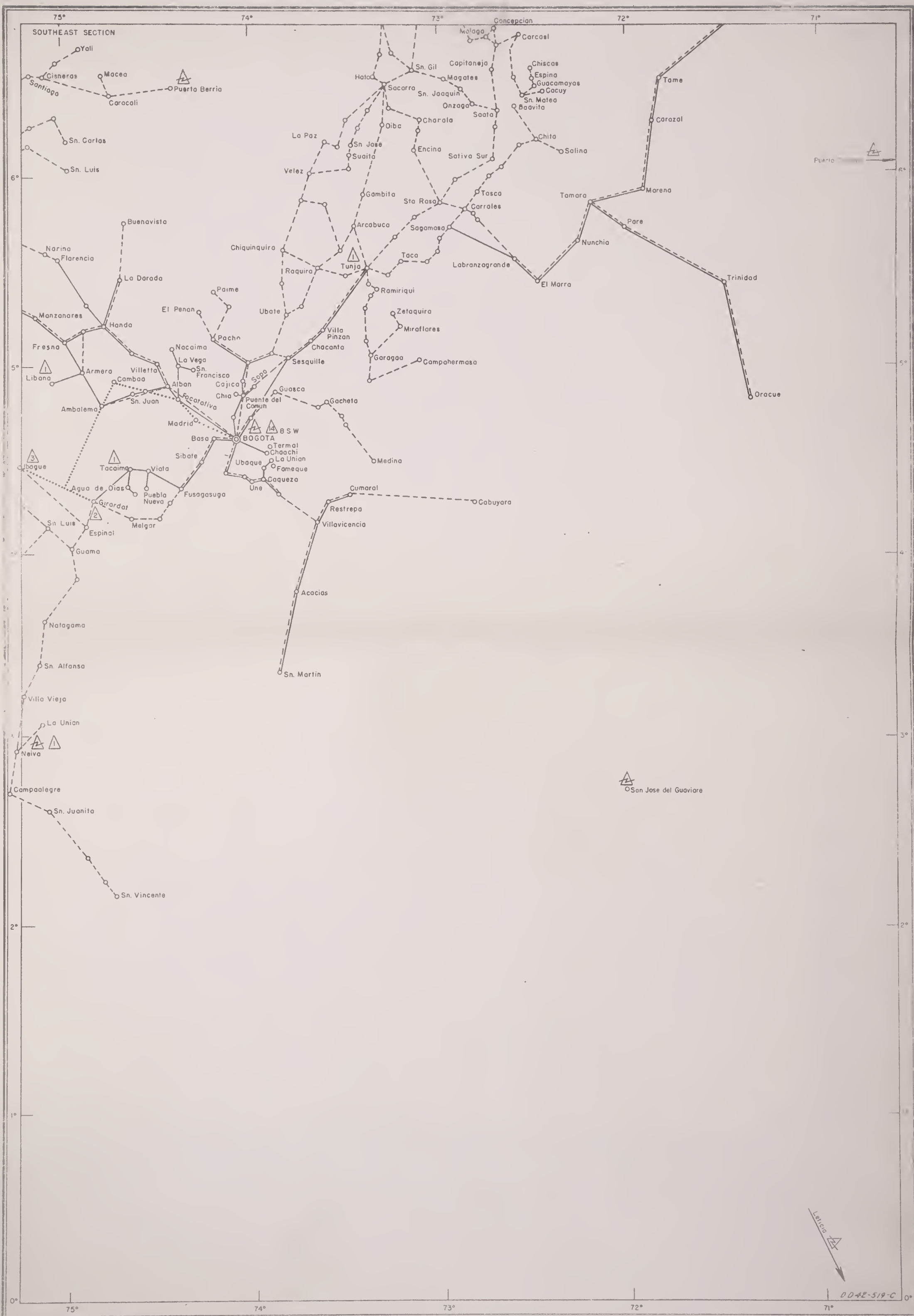
Amateur Radio Stations, 1941

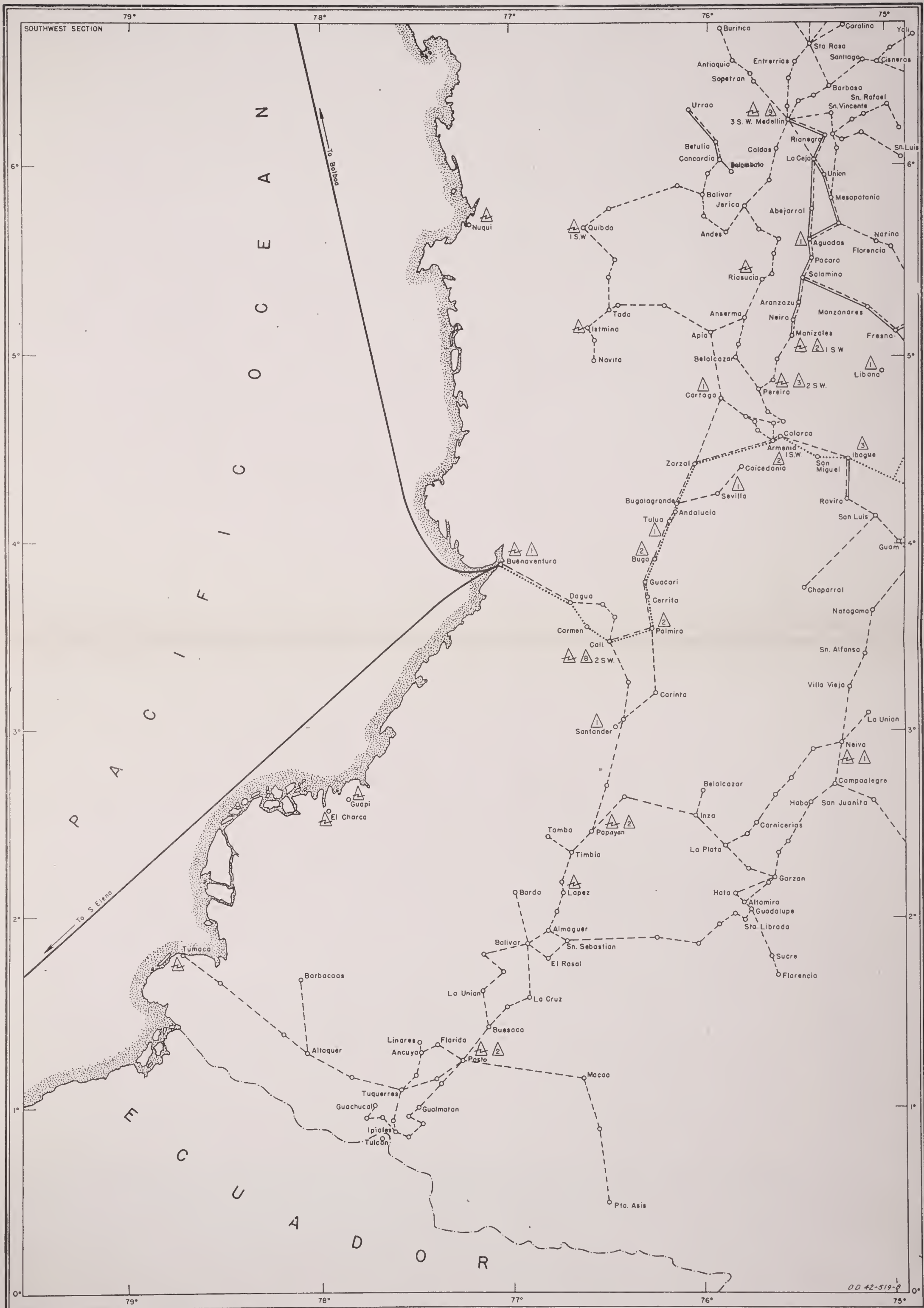
<u>City</u>	<u>Call letters</u>	<u>Proprietor</u>
Armenia	HK6FD	Juan de D. Valencia
"	HK6FB	Humberto Palacio
Barranquilla	HK1AA	Sergio Martinez Apaucio
"	HK1AB	Emilio Fortou
"	HK1AG	Enrique Haayen Verano
"	HK1AI	Federico Eckardt
"	HK1AJ	Roberto Fuentes Paris
"	HK1AL	Marco Villegas
"	HK1AS	Clemente Vassallo
"	HK1AW	Jose Daniel Sanchez
Bogota	HK3CA	Ministerio de Guerra
"	HK3CB	Luis Manuel Rodriguez
"	HK3CD	Luis Julio Bernal
"	HK3CE	Facultad Salazar and Ortega
"	HK3CF	Francisco Alberto Almansa
"	HK3CG	Eduardo A. Plata
"	HK3CI	Jorge Acevedo
"	HK3CJ	Marco C. Sanchez
"	HK3CK	Gustavo Piquero
"	HK3CL	Mario Roncallo Carbonell
"	HK3CM	Sanchez and Hernandez
"	HK3CN	Pedro E. Rey
"	HK3CH	Luis Guillermo Clavijo
"	HK3CO	Luis E. Caicedo
"	HK3CS	Alvaro Roldan
"	HK3CR	Francisco Ramirez Cadavid
"	HK3CT	Alirio Rabio Pinzon
"	HK3CV	Josue Gomez Pinzon
"	HK3CY	Hector McCormick
"	HK3PCA (Portable)	Francisco Pineda Otero
Bucaramanga	HK7GB	Victor Martinez V.
"	HK7GG	Gonzalo Galvis
Cali	HK5EE	Daniel Benitez
"	HK5EF	Carlos V. Arana
"	HK5EG	Alfredo Cabal
"	HK5EJ	Francisco Rodriguez D.
"	HK5EL	Noel Recio Constain
Cartagena	HK1AO	Bernardo Mendez
Cartago	HK5EH	Primitivo Buenaventura
"	HK6FA	Tulio Vila B.
Ibague	HK6FH	Salomon Hakim
Manizales	HK6FC	Luis C. Santacoloma
Medellin	HK4DA	Leonel Estrada
"	HK4DC	Raul Mejia
"	HK4DD	Luis Adudelo
"	HK4DE	Enrique Isaza
"	HK4DF	Arturo Alzate Giraldo

TABLE X
(continued)

Amateur Radio Stations, 1941

<u>City</u>	<u>Call letters</u>	<u>Proprietor</u>
Monteria	HK1AP	Jorge Nassar
"	HK1AQ	Jorge Chebel
Palmira	HK5EC	Alfredo Bayne
Pamplona	HK2BB	Carlos E. Mendoza
Pereira	HK6FE	Aldemar Cortes
"	HK6FG	Cesar Arango
Piedecuesta	HK7GC	Gustavo Sorzano
Popayan	HK5EK	Uldarico Ariqabaleta
"	HK5EM	Guillermo Bucheli
Puerto Salgar	HK3CZ	Hernando Melani
Santa Marta	HK2BD	Aurelio Linero
Sevilla	HK5EB	Gilberto Mora
Tunja	HK7GA	Pompilio Sanchez
Uribia	HK2BC	Luis E. Londono
Usaquen	HK3CU	Luis C. Cardona







NORTHEAST SECTION

ATLANTIC OCEAN

DD 42-519-A

LIBRARY OF CONGRESS



0 038 701 251 5